

APR 20 2010

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

Applicant Initiated Interview Request FormApplication No.: 10/582,818 First Named Applicant: Adrian James CableExaminer: Jade R. Callaway Art Unit: 2872 Status of Application: Pending

Tentative Participants:

(1) Timothy J. Meagher (2) Ashley B. Tarokh
(3) _____ (4) _____Proposed Date of Interview: Wednesday 4/21/10 Proposed Time: 2:30 PM (AM/PM)

Type of Interview Requested:

(1) ☒ Telephonic (2) ☐ Personal (3) ☐ Video ConferenceExhibit To Be Shown or Demonstrated: ☐ YES ☐ NO

If yes, provide brief description: _____

Issues To Be Discussed

Issues (Rej., Obj., etc.)	Claims / Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) <u>102(b) Rejections</u>	<u>Claim 7</u>	<u>Kasazumi (EP 0450644)</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<u>Kasazumi (EP 0450644)</u>			
		<u>Hesselink (5,995,251)</u>			
(2) <u>103(a) Rejections</u>	<u>Claims 1-6, 8, and 9-10</u>	<u>Waldren (20040108971)</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Continuation Sheet Attached

Brief Description of Arguments to be Presented:

Cited references do not teach displaying an image from hologram data on SLM or calculation of holograms. Proposed claim amendments are attached.

An interview was conducted on the above-identified application on _____

NOTE: This form should be completed by applicant and submitted to the examiner in advance of the interview (see MPEP § 713.01).

This application will not be delayed from issue because of applicant's failure to submit a written record of this interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR § 1.133(b)) as soon as possible.

Applicant/Applicant's Representative Signature

Examiner/SPE Signature

Typed/Printed Name of Applicant or Representative

Registration Number, if applicable

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April 16, 2010

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Adrian James Cable, Edward Buckley and Nicholas Alexander Lawrence
Application No.: 10/582,818 Group: 2872
371(c) Date: January 25, 2007 Examiner: Jade R. Callaway
Confirmation No: 8692
For: VIEWING ANGLE ENHANCEMENT FOR HOLOGRAPHIC
DISPLAYS

PROPOSED CLAIM AMENDMENT

1. (Currently amended) A holographic display comprising a spatial light modulator (SLM) to provide a pixellated hologram display device having a predetermined resolution and a pixellated phase mask, ~~arranged such that holograms the SLM displayed~~ displaying on the SLM holograms that are viewed through the phase mask, ~~wherein the phase mask has~~ and have a resolution higher than the predetermined resolution.
2. (Currently amended) A holographic display comprising a spatial light modulator (SLM) to provide a pixellated hologram display device having a predetermined resolution and a pixellated phase mask, ~~arranged such that holograms the SLM displayed~~ displaying on the SLM holograms that are viewed through the phase mask, ~~wherein~~ the phase mask ~~co-operates~~ cooperating with the SLM such that the repeating pattern of holographic elements has a higher resolution than the predetermined resolution.
3. (Previously Presented) A holographic display according to claim 1 or 2 wherein the pixellated hologram display device is arranged to display binary phase holograms and the phase mask has four phase levels.
4. (Original) A holographic display according to claim 3, wherein the display is constructed and arranged to operate at a given optical wavelength, and taking one of the phase levels

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as a reference, the others provide respective phase shifts of $\pi/2$, π and $3\pi/2$ at the given wavelength.

5. (Previously Presented) A holographic display according to claim 1 or 2, wherein the pixellated hologram display device is arranged to display four phase holograms and the phase mask has two phase-levels.
6. (Previously Presented) A holographic display according to claim 1 or 2, wherein the SLM is a liquid crystal SLM.
7. (Currently amended) A method of increasing the viewing angle of a hologram on a pixellated hologram display device having a predetermined resolution, the method comprising:
disposing a pixellated phase mask with respect to the pixellated hologram display device for viewing the hologram, the holograms being viewed through the pixellated phase mask, wherein the resolution of the pixellated phase mask [[is]] being greater than that of the pixellated hologram display device.
8. (Original) A method of viewing a pixellated hologram, the pixels of the hologram having a predetermined resolution, comprising viewing the hologram through a pixellated phase mask, wherein the resolution of the pixellated phase mask is greater than that of the pixellated hologram.
9. (Currently amended) A holographic display comprising a spatial light modulator (SLM) to provide a pixellated hologram display device having a predetermined resolution and a pixellated phase mask, ~~arranged such that holograms~~ the SLM displayed displaying on the SLM holograms that are viewed through the phase mask, ~~wherein~~ the phase mask is being arranged so that respective locations where its pixels meet are disposed above generally central regions of the pixels of the display device.

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10. (Previously Presented) A holographic display as claimed in claim 6 configured to calculate holograms for display on said SLM by an OSPR-type method in which noise in said replay image is reduced by displaying a plurality of holograms per image frame.
11. (Previously Presented) A method of displaying a holographically generated image, the method comprising:
- providing a pixellated hologram;
 - providing a pixellated phase mask adjacent said hologram; and
 - displaying an image replayed by said hologram such that when said image is replayed each pixel of said hologram is modified by pixel phases of at least two pixels of said pixellated phase mask;
- wherein said pixellated phase mask cooperates with said pixellated hologram such that a viewing angle of said replayed image is enhanced by diffraction by said pixellated phase mask.
12. (Previously Presented) A method as claimed in claim 11 wherein said pixellated hologram is provided on a pixellated spatial light modulator (SLM).
13. (Previously Presented) A method as claimed in claim 12 wherein said pixellated phase mask has smaller pixel pitch than said SLM, and wherein a number of addressable points on a replay field of said replayed image is enhanced by said pixellated phase mask.
14. (Previously Presented) A method as claimed in claim 12 further comprising calculating holograms for display on said SLM by an OSPR-type method in which noise in said replayed image is reduced by displaying a plurality of holograms per image frame.
15. (Previously Presented) A holographic display for displaying a holographically generated image, the holographic display comprising:
- a pixellated spatial light modulator (SLM) configured to display a pixellated hologram;

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a pixellated phase mask adjacent said hologram; and

wherein said SLM and said pixellated phase mask are configured such that when an image is replayed by said hologram each pixel of said hologram is modified by pixel phases of at least two pixels of said pixellated phase mask; and

wherein said pixellated phase mask cooperates with said pixellated hologram such that a viewing angle of said replayed image is enhanced by diffraction by said pixellated phase mask.

16. (Previously Presented) A holographic display as claimed in claim 15 wherein said pixellated phase mask has a smaller pixel pitch than said SLM, and wherein a number of addressable points in a replay field of said replayed image is enhanced by said pixellated phase mask.

17. (Previously Presented) A holographic display as claimed in claim 15 further configured to calculate holograms for display on said SLM by an OSPR-type method in which noise in said replayed image is reduced by displaying a plurality of holograms per image frame.